We claim:

1. A method for improving the uniformity of a wet coating on a substrate comprising contacting the coating at a first position with wetted surface portions of:

a) three or more periodic pick-and-place devices that are not periodically related, or

b) two or more rotating periodic pick-and-place devices having the same direction of rotation

and re-contacting the coating with such wetted surface portions at positions on the substrate that are different from the first position and not periodically related to one another with respect to their distance from the first position.

2. A method according to claim 1 wherein at least one of the pick-and-place devices comprises a roll.

3. A method according to claim 2 comprising three or more pick-and-place rolls.

4. A method according to claim 3 wherein three or more of the rolls have different diameters.

5. A method according to claim 2 wherein the substrate comprises a rotating endless belt or moving web, and the rolls rotate with the belt or web.

6. A method according to claim 5 wherein at least one of the rolls is undriven.

7. A method according to claim 5 wherein all of the rolls are undriven.

8. A method according to claim 5 comprising at least four pick-and-place devices.

9. A method according to claim 2 comprising at least five pick-and-place devices.

10. A method according to claim 2 wherein there is a speed differential between the substrate and at least one roll.

11. A method according to claim 10 wherein there are speed differentials between the substrate and two or more rolls.

12. A method according to claim 10 wherein the speed differential is periodic.

13. A method according to claim 11 wherein the speed differential is sinusoidal.

14. A method according to claim 13 wherein two of the speed differentials have opposite signs for a portion of time.

15. A method according to claim 14 wherein the two speed differentials are periodic and out of phase with one another.

16. A method according to claim 15 wherein the two speed differentials are out of phase by 180 degrees.

17. A method according to claim 1 wherein the pick-and-place devices have contacting periods that are chosen so as to produce a coating having improved uniformity.

18. A method according to claim 17 wherein the period of at least one pick and place device can be changed while the device is in operation.

19. A method according to claim 18 wherein the period is changed by changing the rotational speed of a pick-and-place roll.

20. A method according to claim 18 wherein the period is changed by changing the diameter of a pick-and-place roll.

21. A method according to claim 18 wherein the period is changed in response to a control signal from a control system.

22. A method according to claim 18 wherein the period is changed in response to a signal from a caliper sensing device.

23. A method for applying a coating to a substrate comprising applying to the substrate an uneven wet coating, contacting the coating at a first position with wetted surface portions of:

a) three or more periodic pick-and-place devices that are not periodically related, or

b) two or more rotating periodic pick-and-place devices having the same direction of rotation

and re-contacting the coating with such wetted surface portions at positions on the substrate that are different from the first position and not periodically related to one another with respect to their distance from the first position.

24. A method according to claim 23 wherein the uneven coating is discontinuously applied.

25. A method according to claim 23 wherein the uneven coating is applied by spraying.

26. A method according to claim 23 wherein the applied coating initially has voids.

27. A method according to claim 23 wherein the uneven coating is applied in stripes.

28. A method according to claim 23 wherein the uneven coating is applied to a substrate that has already been wet by a previously applied layer of the coating.

29. A method according to claim 23 wherein the uneven coating is applied to a dry substrate and the applied coating initially has voids.

30. A method according to claim 23 wherein the uneven coating is periodically applied.

31. A method according to claim 30 wherein the period of the applied coating is changed in response to a control signal from a caliper sensing device.

32. A method according to claim 23 wherein the substrate comprises a roll, endless belt or moving web having a direction of motion.

33. A method according to claim 32 wherein the applied coating initially has a thickness that varies in the direction of motion.

34. A method according to claim 33 wherein the thickness has a periodic variation.

35. A method according to claim 34 wherein the period varies with time.

36. A method according to claim 32 wherein the applied coating thickness is initially discontinuous in the direction of motion.

37. A method according to claim 32 wherein the coating is applied from one or more nozzles at least one of which traverses the substrate in a direction other than the direction of motion.

38. A method according to claim 23 wherein the average coating thickness can be premetered.

39. A method according to claim 23 wherein the substrate comprises a transfer belt or transfer roll, the pick-and-place devices comprise rolls, and a moving web is contacted by a coated portion of the transfer belt or transfer roll whereby a portion of the coating is transferred to the web.

40. A method according to claim 39 wherein the applied coating initially has voids.

41. A method according to claim 40 wherein the transferred coating is substantially void-free.

42. A method according to claim 39 wherein the transfer belt period or transfer roll period and the period of at least one of the pick-and-place rolls are not related as integer multiples of one another.

43. A method according to claim 39 wherein the periods of at least two pairs of the pick-and-place rolls are not related as integer multiples of one another.

44. A method according to claim 39 wherein the uneven coating is periodically applied.

45. A method according to claim 44 wherein the period of the coating applicator and the period of at least one of the pick-and-place rolls can not be expressed by a fraction where the numerators and the denominators are integers ranging from one to twenty.

46. A method according to claim 44 wherein the coating is applied as one or more stripes, the pick-and-place devices comprise rolls, and at least two of the roll periods are not related as "fractional roll sizes" where the fraction is given by **m/d** where **m** and **d** are integers and **d** is less than 41.

47. A method according to claim 46 wherein at least one pair of rolls with sizes x and y are not related by the equations $y = (s/t)x + u/v$ where s, t, u, and v are all integers between –20 and 20.

48. A method according to claim 46 wherein at least one pair of rolls with sizes x and y are not related to any intersection of the lines described by the equations $y = (s/t)x + u/v$ where s, t, u, and v are all integers generally between –20 and 20.

49. A method according to claim 23 wherein the coating is applied in one or more lanes.

50. A method according to claim 49 wherein the coating is applied in two or more abutting lanes.

51. A method according to claim 23 comprising the further step of drying the coating, wherein the pick-and-place devices increase the rate of drying.

52. A method according to claim 1 comprising the further step of drying the coating, wherein the pick-and-place devices increase the rate of drying.

53. A method according to claim 1 wherein the coating initially has a maximum caliper, a minimum caliper, and a caliper range equal to the maximum caliper minus the minimum caliper, and wherein the pick-and-place devices reduce the range by greater than 75%.

54. A method according to claim 53 wherein the pick-and-place devices reduce the range by greater than 90%.

55. A method according to claim 1 wherein the coating initially has voids, and wherein the pick-and-place devices reduce the total void area by greater than 50%.

56. A method according to claim 55 wherein the pick-and-place devices reduce the total void area by greater than 75%.

57. A method according to claim 55 wherein the pick-and-place devices reduce the total void area by greater than 99%.

58. A method according to claim 1 wherein the surface portions of one or more of the pick-and-place devices are grooved, knurled, etched or otherwise textured.

59. A method according to claim 1 wherein the coating is dried, cured or otherwise hardened, and has a final coating caliper less than about 5 micrometers.

60. A method according to claim 59 wherein the final coating caliper is less than about 1 micrometer.

61. A method according to claim 59 wherein the final coating caliper is less than about 0.5 micrometer.

62. A method according to claim 59 wherein the final coating caliper is less than about 0.1 micrometer.

63. An improvement station for improving the uniformity of a liquid coating on a substrate comprising:

a) three or more pick-and-place devices, or

b) two or more rotating periodic pick-and-place devices having the same direction of rotation

that can periodically contact and re-contact the coating at different positions on the substrate, wherein the periods of at least three of the devices are not periodically related.

64. An improvement station according to claim 63 wherein the periods are selected so that the uniformity of the coating is improved.

65. An improvement station according to claim 63 comprising a train of three or more rolls that contact the liquid coating, wherein the rotational periods of three or more of the rolls are not periodically related to one another.

66. An improvement station according to claim 65 comprising five or more rolls.

67. An apparatus comprising a coating station for applying an uneven coating to a substrate and an improvement station comprising two or more pick-and-place devices that can periodically contact and re-contact the coating at different positions on the substrate, wherein the periods of the devices are selected so that the uniformity of the coating is improved.

68. An apparatus according to claim 67 wherein the coating station initially applies a discontinuous coating.

69. An apparatus according to claim 68 wherein the coating station applies the coating in the form of one or more stripes.

70. An apparatus comprising a coating station for applying a coating to a first substrate, an improvement station comprising two or more pick-and-place devices for contacting and re-contacting the coating at different positions on the first substrate whereby the coating becomes more uniform on such first substrate, and a transfer station for transferring the coating from the first substrate to a second substrate.

71. An apparatus according to claim 70 comprising a coating station that coats at least one lane on said first substrate and a transfer station that transfers such lane to said second substrate.

72. An apparatus according to claim 70 further comprising a drying station that dries the coating, wherein the pick-and-place devices comprise rolls that increase the rate of drying.

73. An apparatus according to claim 67 further comprising a drying station that dries the coating, wherein the pick-and-place devices comprise rolls that increase the rate of drying.

74. An improvement station according to claim 63 further comprising a drying station that dries the coating, wherein the devices comprise rolls that increase the rate of drying.

75. An apparatus that comprises a plurality of pick-and-place devices that contact and re-contact a substrate having an uneven wet coating, whereby the pick-and place devices increase the drying rate of the coating.

76. An apparatus according to claim 75 wherein the uneven wet coating is discontinuous.

77. An apparatus according to claim 75 wherein the substrate comprises a moving web.

78. An apparatus according to claim 75 wherein the substrate comprises an electronic film, component or precursor thereof.

79. An apparatus according to claim 75 wherein the coating wets one or more of the pick-and-place devices with a contact angle less than about 45°.

80. An apparatus according to claim 75 comprising five or more pick-and-place devices.